

County of Loudoun
Office of Transportation Services
MEMORANDUM

DATE: September 11, 2009
TO: Nicole Steele, Project Manager, Department of Planning
FROM: Marc Lewis-DeGrace, Transportation Planner *MLDG*
SUBJECT: **SPEX 2008-0061, SPEX 2008-0062, CMPT 2008-0020**
White's Ford Park
(Second Referral)

Background

This referral serves as an update to the status of issues identified in the first OTS referral (dated April 13, 2009) on these applications (two special exceptions (SPEX) and one commission permit (CMPT)), which request approval of a park administered by the Northern Virginia Regional Park Authority (NVRPA).

The site consists of approximately 275 acres and is located both north and south of Hibler Road (Route 656) between Harrison Hill Lane and the Potomac River. The site will have access from Hibler Road, which connects to James Monroe Highway (US Route 15) via Limestone School Road (Route 661) and Spinks Ferry Road (Route 657).

The proposed park land is currently zoned Agricultural Rural – 1 (AR-1). The proposed park will be implemented in two phases, the first will include the installation of a boat launch and camping facilities and will be completed by 2015. The second phase will include equestrian trail facilities that will be completed at a future date not yet determined.

The proposed development does not seek to change the current AR-1 zoning, and "community, neighborhood, or regional park, active recreational uses" are permitted by the Revised 1993 Loudoun County Zoning Ordinance. The boat launch, which will be constructed along the Potomac River and the camping facilities, will each require a special exception.

This update is based on review of materials received from the Department of Planning on August 10, 2009, namely (1) a letter responding to first referral comments, dated July 30, 2009, (2) a revised special exception plat prepared by Christopher Consultants, Ltd.,

dated November 26, 2008 and (3) concept sketch prepared by Christopher Consultants, Ltd., dated August 7, 2008, and revised through June 29, 2009.

Status of Transportation Issues/Comments

Staff comments from the first OTS referral as well as the Applicant's responses (quoted directly from its July 30, 2009 response letter) and current issue status, are provided below.

1. **Initial Staff Comment (1st Referral):** It is not clear from the traffic study whether the applicant is seeking approval for any Phase II uses. The study indicates that these activities have not been "finally determined," and also states that no additional traffic is anticipated. However, depending on what uses are proposed, this may or may not be the case. Please clarify.

Applicant's Response (July 30, 2009): The applicant has near-term plans for those uses identified in Phase I. Should the Applicant choose to further develop the by-right park, some or all of the uses identified in Phase II uses may be provided. However, no additional staffing or traffic are associated with Phase II; rather, those additional recreational activities and uses would complement the Phase I uses.

Issue Status: Issue not resolved. Since the Applicant has indicated that "... additional recreational activities and the build-out year for Phase II are not finally determined." OTS recommends that these applications be limited to the proposed Phase I uses.

2. **Initial Staff Comment (1st Referral):** Gorove/Slade notes that existing traffic counts were conducted on Tuesday, November 11, 2008 a federal holiday. In addition, additional "spot counts" were conducted on November 18, 2008 in order adjust the counts conducted on the 11th. OTS questions why 1) Gorove/Slade chose to conduct traffic counts on a federal holiday; 2) how the "spot counts" were used to adjust the original counts; and 3) why new AM and PM peak hour counts were not conducted.

Applicant's Response (July 30, 2009): The critical count measure at this location was the through traffic along Route 15. Historical counts and VDOT ADT data were a primary source of data. In addition, counts were conducted on two separate days to get through and turning traffic at this location. In order to expedite the analysis prior to the holiday season, counts were performed on November 11, 2008, a federal holiday, but not in Loudoun County School holiday. To clarify that the federal holiday did not substantially alter traffic patterns, follow up counts were conducted the following week. The follow up counts, or spot counts are a means of focusing in on critical peak hour and doing a full update of that hour. They are essentially new AM and PM counts, just during a focused time period. "Spot counts" were used to adjust the original counts obtained on November 11 in order to reflect actual traffic

conditions during a typical weekday. An increase was applied to the volumes obtained on November 11 to accounts for the difference in traffic between a typical weekday and a federal holiday. OTS was consulted prior proceeding with the data collection on November 11, 2008. The count schedule was accepted with the understanding that follow-up spot counts would be conducted to validate and update the data taken November 11.

Issue Status: Issue not resolved. OTS accepts the Applicant's explanation regarding traffic counts taken on a federal holiday, but will not accept such counts in the future.

Appendix C of the TIA provides "Adjusted Volumes" for traffic counts for November 11, 2008 and November 18, 2008. However, the data is not depicted showing the raw data for each day individually, nor how the data was verified with a spot check. In addition, the TIA (Appendix C) provides raw volumes from September 6, 2008. Please explain the relevance of this data.

3. **Initial Staff Comment (1st Referral):** OTS is concerned about the unacceptable LOS on westbound Limestone School Road at US 15. The traffic generated by the proposed uses will exacerbate this situation. OTS recommends that the applicant make a fair share contribution for the purpose of constructing a traffic signal at this intersection when warranted. Preliminary calculations indicate that this contribution should be approximately 16% of the cost of the traffic signal at the time of construction. OTS is available to discuss this issue further with the applicant.

Applicant's Response (July 30, 2009): The intersection of US Route 15 and Limestone School Road currently operates and will continue to operate at an unacceptable LOS on westbound Limestone School Road at US 15. Therefore, the costs of any needed improvements would be spread among the traffic generators that currently exist, not the proposed park facility, which would generate less than 1 percent of the total traffic projected at this intersection. However, no mitigation measures have been recommended because there is not enough volume on the westbound approach to warrant roadway/signal improvements under existing and future scenarios based on the traffic analysis. Therefore, the applicant finds it outside its mitigation measures to contribute to the installation of a traffic signal at the study intersection now or if warranted in the future.

Issue Status: Issue not resolved. See comment #4 below.

4. **Initial Staff Comment (1st Referral):** Gorove/Slade provides a signal warrant analysis in Appendix H of the TIA. This signal warrant analysis is based on "Estimated Average Daily Traffic" ("To be used only for NEW INTERSECTIONS or other locations where actual traffic volumes cannot be counted.") The volumes used in this analysis appear to be less than actual existing counts from several years ago as provided in the traffic study. The analysis should reflect projected conditions at site buildout. Please explain the methodology used for this analysis.

Applicant's Response (July 30, 2009): As agreed upon at the scoping meeting, a traffic signal warrant analysis was performed at the intersection of US Route 15 and Limestone School Road under future conditions with development (2015) based on the Manual on Traffic Signal Design (MTSD) guidelines. A full traffic signal warrant study was not required.

The future volumes with the proposed development were considered in the traffic signal warrant analysis. They were multiplied by 10, which is a k-factor commonly used in the transportation engineering field, to estimate average daily traffic at the study intersection. Therefore, these volumes were higher than the actual recorded counts since an inherent growth rate of 3 percent compounded annually over a seven-year period was added to the existing through traffic on US Route 15 to account for regional increases in traffic due to background growth and development outside the study area. Please refer to Figure A and Appendix H in the Traffic Study for traffic volume comparisons.

Issue Status: Issue not resolved. OTS believes the methodology used in the warrant analysis is flawed and requires further discussion. OTS is available to meet with the applicant to discuss this issue and comment #3 as it relates to the warrant analysis. Additional comments may be provided depending on the outcome of those discussions.

5. Initial Staff Comment (1st Referral): The applicant notes in their Traffic Impact Analysis (TIA) that a right-turn taper is warranted on northbound US 15 (Appendix H). The applicant should construct the warranted taper.

Applicant's Response (July 30, 2009): A wide shoulder was recently added as part of a VDOT project, to northbound US 15 at its intersection with Limestone School. The shoulder was considered the alternative at the time of its installation. Although not included in the TIA, it should be noted that a review of existing volumes shows that a right-turn taper is warranted under existing conditions. Should this shoulder be converted into a right-turn taper, the Applicant will contribute its fair share toward the restriping of the current asphalt area once the County is in receipt of the remaining money.

Issue Status: Issue not resolved. While the Applicant's TIA shows that at least a taper is required on US Route 15 at Limestone School Road, OTS recommends that a full-length right-turn lane be installed at this location by the Applicant due to the length of vehicles that are anticipated to access the park uses. There is sufficient existing ROW for such improvements.

6. Initial Staff Comment (1st Referral): There are several stream crossings along the roadways leading to the proposed site. In particular, OTS is concerned that the one-lane bridge stream crossing on Limestone School Road (west of Temple Hall Lane) will cause conflicts with opposing traffic towing boats. The applicant should work

with VDOT to ensure that the traffic generated by the proposed uses has no adverse impact on the operation of the local road network, particularly with respect to these crossings. One option to address the one-lane bridge concerns may be to investigate having park patrons enter the park via Limestone School Road and exit via Spinks Ferry Road. Such a traffic management scheme could potentially improve the LOS at Limestone School Road and reduce conflicts at the above mentioned bridges. However, changes to the traffic management scheme would necessitate the applicant revise the TIA and investigate the LOS at Spinks Ferry Road. Further discussion with VDOT is necessary.

Applicant's Response (July 30, 2009): The Applicant anticipates 20-weekend boat launches and two-weekday boat launches, the majority of which will be canoes or kayaks, which are carried on top of the car and not in boat trailers. These estimates are based on the usage trends at Algonkian Regional Park in eastern Loudoun, which experiences an estimated seven launches a day, and at Fountainheads Regional Park in Fairfax, both of which have 60% of launches by car-top. The launches expected at White's Ford are below those seen at Algonkian because the proposed park is in a less populated area. With so few daily boat launches, a conflict on any one of the bridges would be rare and could easily be mitigated by establishing a yield pattern.

It is unlikely that Park traffic would utilize Spinks Ferry Road because its intersection with US 15 is quite far from the site. As noted by OTS, a change in the site distribution would affect the entire traffic study since it was previously agreed that the intersection of US Route 15 and Spinks Ferry did not need to be studied.

Issue Status: Issue not resolved. The Applicant should provide data of relevant boat usage at Fountainhead Regional Park and Algonkian Regional Park to justify the assumptions put forth. The Applicant should also make improvements on Limestone School Road at the location of one-lane bridge to improve sight distance and facilitate safe traffic operations; these improvements should include yield signs. The Applicant should also direct traffic exiting the site to access US 15 via Spinks Ferry Road, so as to avoid possible conflicts at the one lane bridge on Limestone School Road.

7. **Initial Staff Comment (1st Referral):** OTS recommends that the applicant ensure there is adequate parking within the proposed park. As noted by the applicant in its special exception plat, specific number and location of parking spaces will be determined at site plan approval. OTS will defer to the Department of Building and Development (Zoning Administration) for their findings and recommendations.

Applicant's Response (July 30, 2009): The Applicant will ensure that Parking complies with all regulations, at time of site plan.

Issue Status: Issue resolved.

- 8, Initial Staff Comment (1st Referral): The applicant notes in their TIA, in Appendix A that no Recreational vehicles or 5th-wheel trailers will be allowed in the park. OTS welcomes this restriction and believes that this should be included as a condition for approval.

Applicant's Response (July 30, 2009): Rather than set a restriction on a certain type of vehicle, the Applicant finds it more appropriate to restrict vehicles based on their length. Therefore, the Applicant will agree to restrict vehicles that are greater than 25 feet in length and trailers that are greater than 25 feet in length. However, should Hibler Road be improved at some point, the Applicant proposes that the length limitations increase to 35 feet for an individual vehicle and 35 feet for a trailer.

Issue Status: Issue not resolved. OTS concurs with the Applicant's TIA and reiterates its position that no recreational vehicles or 5th-wheel trailers should be allowed in the park. The introduction of large recreational vehicles/trailers of any length onto admittedly a narrow unpaved Hibler Road will cause safety concerns. Hibler Road is too narrow to have large recreational vehicles safely oppose each other.

9. Initial Staff Comment (1st Referral): OTS recommends that the applicant ensure that the future road connecting existing Hibler Road to the proposed boat launch be built to private road standards as established by the FSM. OTS defers to the Department of Building and Development (Zoning Administration) for their findings and recommendations on the road classifications.

Applicant's Response (July 30, 2009): Comment Acknowledged.

Issue Status: Issue resolved.

10. Initial Staff Comment (1st Referral): OTS recommends that the applicant ensure that all internal roads and existing Hibler Road are upgraded or built to FSM standards to provide safe pedestrian and horse crossings.

Applicant's Response (July 30, 2009): [The Applicant did not provide a response to this comment].

Issue Status: Issue not resolved. (See comment #12 below regarding recommended improvements to Hibler road.)

Supplemental Comments

11. OTS concurs with VDOT comments (dated March 27, 2009) regarding the Applicant's use of the ITE codes. OTS believes that using the ITE code 417 (Regional Park) based on acreage, and not number of employees, is the appropriate method for trip generation. As such OTS believes that the Applicant should revised certain parts of the traffic study using the acreage-based ITE code. These revisions

, should include turn-lane analysis and traffic signal analysis. OTS is available to discuss these changes to the traffic study with the Applicant.

12. OTS concurs with VDOT comments (dated March 27, 2009) that Hibler Road should be upgraded to a GS-4 standard by the Applicant as it is not adequate to serve the proposed uses in its current form, particularly if recreational vehicles are to be permitted in the park. Hibler Road should be upgraded to a GS-4 standard along its entire length.

Conclusion

OTS cannot support approval of this proposal in its current form. A meeting with the Applicant and VDOT is necessary to discuss the transportation issues identified in this referral.

cc: Andrew Beacher, Assistant Director, OTS
Lou Mosurak, Senior Coordinator, OTS
Tom VanPoole, Senior Transportation Engineer, VDOT